

REMARKS

Reconsideration of the pending claims in view of the following remarks is respectfully requested.

Rejection under 35 USC § 103(a) over US 6,131,517 (Simons) in view of US 6,025,022 (Matzinger)

Claims 1-24 were rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over US 6,131,517 (Simons) in view of US 6,025,022 (Matzinger). According to the Office Action, Simons discloses a method of preparing a printing plate including inkjet printing an oleophilic image on a surface of a support by applying to the support an aqueous solution or aqueous colloidal dispersion of a polymer having water-solubilising groups, wherein the water-solubilising groups interact with the support surface, thereby binding the polymer to the support surface and rendering the polymer insoluble (column 1, lines 45-55); wherein the water solubilising groups are ionisable acid group, which is selected from the group consisting of carboxylic acid and sulfonic acid groups (column 2, lines 15-24). The Office Action states that Simons also discloses that the polymer is selected from polyester or sulfonated polyester and polymer prepared by polymerisation of ethylenically unsaturated monomers (column 2, lines 45-55; column 6, lines 15-20) and that the polymer is present in an aqueous solution or aqueous colloidal dispersion in the range 0.02 to 5% by weight (column 6, lines 25-30). The Office Action states that Simons also discloses that the support is selected from metallic surface or polymeric sheet or foil, and more preferably support is metallic and has an oxidized surface (column 2, lines 25-35) and that the support is coated with hydrophilic layer of a polymer (column 2, lines 25-30).

According to the Office Action, Simons differs from the claim of the present invention in that (1) the aqueous solution or aqueous colloidal dispersion of polymer includes a pigment particle therein and (2) the pigment is selected from carbon black, C.I. Pigment Red 122 with the particle size of 10 to 100 nm and pigment is present in an amount from 0.1 to 10% by weight.

According to the Office Action, Matzinger teaches that to get the wet-rub resistance and accent marker resistant print quality, the composition for preparing lithographic plate (column 5, lines 19-36) includes the aqueous solution or aqueous colloidal dispersion of polymer includes pigment particle therein (column 6, lines 45-

50), wherein the pigment is selected from carbon black, C.I. Pigment Red 122 (column 7, lines 1-5) with the particle size of 0.01 μm to 5 μm (10 to 5000 nm) (column 6, lines 55-58), and pigment is present in an amount from 1 to 20% by weight (column 6, lines 60-62).

According to the Office Action, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the composition of Simons by the aforementioned teaching of Matzinger in order to have a wet-rub resistance, and accent marker resistance print quality. For at least the following reasons, Applicants traverse the rejection.

US 6,131,514 (Simons) discloses a method of preparing a printing plate comprising imagewise inkjet printing an oleophilic image on a surface of a support by applying to the support an aqueous solution or aqueous colloidal dispersion of a polymer having water-solubilising groups, wherein the water-solubilising groups interact with the support surface, thereby binding the polymer to the support surface and rendering the polymer insoluble.

US 6,025,022 (Matzinger) is concerned with, amongst other imaging applications, a method of preparing a lithographic printing plate (column 5, lines 33-36) using a two-component printing system using two reactive components - an aziridine and a polymer possessing a functional group capable of reacting with the aziridine on a receiving surface to form a durable, cross-linked polymer which can bind a colorant to the surface to provide a printed image having complete wet-rub resistance, high optical density and accent marker resistance (column 5, lines 41-54). No particular limitation is imposed upon the type or amount of colorant, which may be a pigment, pigment dispersion or a dye (although a pigment is preferred) (column 6, lines 41-44). The two components may be present in the same or different compositions and the colorant may be added as a separate ink composition. Alternatively, an ink composition may contain a colorant and one of the components. The ink composition (containing the colorant) may be applied to the recording medium almost concurrently with, before or after application of the liquid composition to the recording medium (column 8, lines 56-59). Claim 1 of Matzinger describes the steps of coating a glass plate with a first composition comprising a colorant, a carboxylic acid-functionalised polymer, a catalyst and a carrier medium (which may be water), printing thereon an image with a second composition comprising an aziridine and a carrier medium and removing any first combination that

did not receive any of the printed image by washing the printed coated plate with a dilute polyvinyl pyrrolidinone solution.

Claim 1, from which claims 2-13 depend, is directed toward a method for the preparation of a printing plate comprising ink-jet printing an oleophilic image on a surface of a support by applying to the support an aqueous solution or aqueous colloidal dispersion of a polymer having water-solubilising groups wherein the water-solubilising groups interact with the surface of the support thereby binding the polymer to the support and rendering the polymer insoluble, *characterised in that* the aqueous solution or aqueous colloidal dispersion of polymer comprises pigment particles dispersed therein.

The benefit of the pigment particles dispersed in the aqueous solution or coating composition according to the present invention is to improve the number of impressions capable of being formed by a printing plate formed by inkjetting aqueous solutions or dispersions of negatively charged polymers onto a hydrophilic substrate (see page 3, lines 14-16) and this is illustrated in the Examples.

Simons (US 6,131,514) is silent as to the number of impressions capable of being formed or how one might seek to improve the performance of a lithographic printing plate in that regard. Matzinger teaches that the combination of an aziridine and an aziridine-reactive polymer applied to the surface of a recording element is capable of improving the wet-rub resistance of a printed image. There is no indication or suggestion as to how to improve the number of impressions obtainable from a lithographic printing plate formed by inkjetting aqueous solutions or dispersions of negatively charged polymers onto a hydrophilic substrate. It is submitted therefore that the skilled person would not be led by the disclosure of Simons as to how he might go about increasing the number of impressions that a lithographic printing plate is capable of, nor would he refer to Matzinger if he were to seek this improvement because Matzinger does not address this problem. Even if the skilled person were to address Matzinger, he would not be led to utilise pigment particles to improve the number of impressions a printing plate because Matzinger does not teach the improvement of a number of impressions, but rather teaches improved wet-rub resistance. Furthermore, Matzinger teaches that it is not necessary to utilise pigment particles even to improve wet-rub resistance (see column 6, lines 40-44) since a dye could equally well be used in the invention of Matzinger and whilst a pigment is said to be preferred, there is no reason apparent other than to

overcome some of the disadvantages of dyes as set out at column 3, lines 49-63. It is observed that the invention of Matzinger requires the presence of an aziridine as an essential feature, which is not required according to the present invention, and without which it is assumed the benefits of Matzinger would not arise. Still further, it is submitted that the skilled person in possession of Simons would not even refer to Matzinger to improve wet rub resistance because wet rub resistance is a problem that would not be apparent in the method for the preparation of a printing plate described in Simons. It is respectfully submitted, therefore, that Claim 1 of the present application is inventive over Simons in view of Matzinger. Claims 2 to 13 are inventive by virtue of their dependence upon Claim 1. Claims 14-24 are inventive for the same reasons as for Claim 1 discussed above.

For at least the above reasons, reconsideration and withdrawal of the rejection are in order.

Nonstatutory double patenting rejection


In response to the provisional obviousness-type double patenting rejections of Claims 1-4, 6, 11 and 13 over claims 1-4, 7, 10 and 12 of US Patent No. 6,131,514 in view of Matzinger (US 6,025,022), it is submitted that the reasons for the rejection are moot in view of Applicants comments above in respect of the 35 USC 103(a) rejection discussed above.

Accordingly, it is requested that rejection be reconsidered and withdrawn.

In view of the foregoing remarks, reconsideration of the above-identified patent application is respectfully requested. Prompt and favourable action by the Examiner is earnestly solicited. Should the Examiner require anything further, the Examiner is invited to contact Applicants' representative.

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Respectfully submitted


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